Journal of BIOENERGETICS AND BIOMEMBRANES

Volume 22, Number 1, February 1990

Contents

MINI-REVIEWS

Protein Phosphorylation Associated with the Stimulation of Neutrophils. Modulation of Superoxide Production by Protein Kinase C and Calcium. *Paul G. Heyworth and John A. Badwey* 1

Regulatory Proteins of F_1F_0-ATPase: Role of ATPase Inhibitor. *Tadao Hashimoto, Yukuo Yoshida, Kunio Tagawa* 27

RESEARCH ARTICLES

Identification of a Crotoxin-Binding Protein in Membranes from Guinea Pig Brain by Photoaffinity Labeling. *Ming Jhy Hseu, Richard John Guillory, and Mu-Chin Tzeng* 39

The Abnormal-Shaped Mitochondria in Thymus Lymphocytes Treated with Inhibitors of Mitochondrial Energetics. *O. V. Markova, E. N. Mokhova, and A. N. Tarakanova* 51

Influence of Cerebral Ischemia and Post-Ischemic Reperfusion on Mitochondrial Oxidative Phosphorylation. *C. K. Ramakrishna Kurup, K. K. Kumaroo, and Andrew J. Dutka* 61

Regulation of Ca^{2+} Fluxes in Rat Liver Mitochondria by Ca^{2+}. Effects on Ca^{2+} Distribution. *Nils-Erik L. Saris and Hans Kröner* 81

INSTRUCTIONS TO CONTRIBUTORS 91

Journal of BIOENERGETICS AND BIOMEMBRANES

Volume 22, Number 2, April 1990

Contents

MINI-REVIEW SERIES: MEMBRANE FUSION

Evaluation of the Annexins as Potential Mediators of Membrane Fusion in Exocytosis. *William J. Zaks and Carl E. Creutz* . . . 97

Membrane Fusion of Enveloped Viruses: Especially a Matter of Proteins. *Dick Hoekstra* 121

Molecular Mechanisms of Calcium-Induced Membrane Fusion. *Demetrios Papahadjopoulos, Shlomo Nir, and Nejat Düzgünes* . . 157

RESEARCH ARTICLES

The Calmodulin-Activated Form of the Ca^{2+}-Pumping ATPase of the Cardiac Sarcolemmal Membrane Produces Ca^{2+} Gradients with a Thermodynamic Efficiency of 100%. *Deborah. A. Dixon and Duncan H. Haynes*. 181

The K^+-Ionophores Nonactin and Valinomycin Interact Differently with the Protein of Reconstituted Cytochrome *c* Oxidase. *Dietmar Steverding and Bernhard Kadenbach* 197

Journal of BIOENERGETICS AND BIOMEMBRANES

Volume 22, Number 3, June 1990

Contents

MINI-REVIEW SERIES: PROTEIN EXPORT IN BACTERIA: STRUCTURE, FUNCTION, AND MOLECULAR GENETICS

SERIES EDITOR: PHANG C. TAI

Protein Export in Bacteria: An Overview. *Phang C. Tai* 209

Biophysical Studies of Signal Peptides: Implications for Signal Sequence Functions and the Involvement of Lipid in Protein Export. *Jeffrey D. Jones, C. James McKnight, and Lila M. Gierasch* 213

Signal Peptide Mutants of *Escherichia coli*. *Joseph Gennity, Joel Goldstein, and Masayori Inouye* 233

Signal Peptidases and Signal Peptide Hydrolases. *Inderjit K. Dev and Paul H. Ray*. . . 271

The *sec* and *prl* Genes of *Escherichia coli*. *Kristina L. Bieker, Gregory J. Phillips, and Thomas J. Silhavy*. 291

SecA Protein: Autoregulated Initiator of Secretory Precursor Protein Translocation Across the *E. coli* Plasma Membrane. *Donald B. Oliver, Robert J. Cabelli, and Gregory P. Jarosik* 311

SecB Protein: A Cytosolic Export Factor That Associates with Nascent Exported Proteins. *Carol A. Kumamoto*. 337

Structure, Function, and Biogenesis of SecY, an Integral Membrane Protein Involved in Protein Export. *Koreaki Ito* 353

Protein Translocation *In Vitro*: Biochemical Characterization of Genetically Defined Translocation Components. *James Fandl and Phang C. Tai*. 369

In Vitro Translocation of Bacterial Secretory Proteins and Energy Requirements. *Shoji Mizushima and Hajime Tokuda* 389

Export of the Periplasmic Maltose-Binding Protein of *Escherichia coli*. *Philip J. Bassford, Jr.* 401

Export and Sorting of the *Escherichia coli* Outer Membrane Protein OmpA. *Roland Freudl, Michael Klose, and Ulf Henning* 441

Lipoproteins in Bacteria. *Shigeru Hayashi and Henry C. Wu* 451

The Mechanism of Secretion of Hemolysin and Other Polypeptides from Gram-Negative Bacteria. *I. Barry Holland, Mark A. Blight, and Brendan Kenny*. 473

Journal of BIOENERGETICS AND BIOMEMBRANES

Volume 22, Number 4, August 1990

Contents

MINI-REVIEW SERIES: SOME ASPECTS OF MEMBRANE TRANSPORT SYSTEMS

Transport Systems Encoded by Bacterial Plasmids. *Louis S. Tisa and Barry P. Rosen* 493

Anion Exchange Reactions in Bacteria. *Peter C. Maloney*. 509

Proton-Linked Sugar Transport Systems in Bacteria. *Peter J. F. Henderson* 525

Binding Protein-Dependent Transport Systems. *C. F. Higgins, S. C. Hyde, M. M. Mimmack, U. Gileadi, D. R. Gill, and M. P. Gallagher* 571

Genetic Basis of Multidrug Resistance of Tumor Cells. *Susan E. Kane, Ira Pastan, and Michael M. Gottesman* 593

Journal of BIOENERGETICS AND BIOMEMBRANES

Volume 22, Number 5, October 1990

Contents

RESEARCH ARTICLES

Plasma Membrane Dehyrogenases in Rat Brain Synaptic Membranes. Multiplicity and Subunit Composition. *J. L. Dreyer* 619

On the Nature of the Uncoupling Effect of Fatty Acids. *Siro Luvisetto, Maurizio Buso, Daniela Pietrobon, and Giovanni Felice Azzone* 635

Effects of Plasma Membrane Oxidoreductases on Ca^{2+} Mobilization and Protein Phosphorylation in Rat Brain Synaptosomes. *C. Bulliard, N. Marmy, and J. L. Dreyer*. 645

A Characterization of Cuprizone-Induced Giant Mouse Liver Mitochondria. *Valeria Petronilli and Mario Zoratti* 663

Dicyclohexylcarbodiimide as Inducer of Mitochondrial Ca^{2+} Release. *Edmundo Chávez, Cecilia Zazueta, and Enrique Díaz* 679

The Use of Amphipathic Maleimides to Study Membrane-Associated Proteins. *David G. Griffiths, Michael D. Partis, Perry Churchill, Stephen C. Brenner, Sidney Fleischer, Roger J. Moore, and R. Brian Beechey* 691

Journal of BIOENERGETICS AND BIOMEMBRANES

Volume 22, Number 6, December 1990

Contents

MINI-REVIEW SERIES: PROTEIN TRANSPORT IN MEMBRANES OF EUKARYOTES

SERIES EDITOR: PHANG TAI

Ribonucleoparticle-Independent Transport of Proteins into Mammalian Microsomes. *R. Zimmermann, M. Zimmermann, H. Wiech, G. Schlenstedt, G. Müller, F. Morel, P. Klappa, C. Jung and W. W. E. Cobet* 711

Mitochondrial Protein Import. *Vincent Geli and Benjamin Glick* . . . 725

Biogenesis of Mitochondrial *c*-Type Cytochromes. *Daniel H. Gonzales and Walter Neupert*. 753

On the Translocation of Proteins across the Chloroplast Envelope. *Ulf-Ingo Flügge* 769

Current Views on Chloroplast Protein Import and Hypotheses on the Origin of the Transport Mechanism. *E. Kathleen Archer and Kenneth Keegstra* 789